

Date: Monday, 16/03/2009 2:01:15 PM
 User: Julie Dawson

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : FWD TUBE ASSEMBLY
 Job Number : 46521
 Estimate Number : 10467
 P.O. Number :
 This Issue : 16/03/2009 S.O. No. :
 Prsht Rev. : NC
 First Issue : / / Type : SKIDTUBES
 Previous Run : 45955
 Part Number : D3391021
 Drawing Number : D3391 REV H
 Project Number : N/A
 Drawing Revision : H
 Material :
 Due Date : 03/04/2009 Qty: 1 Um: Each

Written By :
 Checked & Approved By : JLD 09-03-16
 Comment : Est. A 05.09.13 New issue KJ/JLM

Est. B 06.02.10 Dwg rev.D ecn 773 EC
 Est. C 06.05.02 Added inspections EC
 est D 07.03.13 rev F dwg EC
 est E 07.11.07 revG dwg ecn1053P EC verified by: DD
 Est Rev:f ECN 1056 07-11-12 DD verified by: EC
 Est Rev:G 08-09-08 new process (ecn 08-510) DD verified
 by:EC
 Est Rev:H 08-09-10 revH as per dwg DD verified by:EC
 Est Rev J 09.02.02 added hardware EC verified by: DD

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 Skidtube Material



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

SKIDTUBE MAT'L

Pick:

Qty Part Number Description Batch
 1 D6013-047 Extrusion

Batch

B-26547

MB 09-03-23 ①

2.0 SKIDTUBES 1 SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Cut extrusion to 46.52 +0.010 -0.020

MB 09-03-23

①

3.0 BENDING BENDING MACHINE - SKIDTUBES



Comment: Nc bender

Bend as per Dwg D3391 Using Bend Prog 3391021

MB 09-03-23

①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Drawing Name: FWD TUBE ASSEMBLY

Job Number: 46521

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

4.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 09/03/23 (X)

5.0

HAAS1

HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine as per Folio FA590 Rev. AA & Dwg D3391 Rev. H
Identify as D3391-1

2-Deburr

J.F. 09/03/31 (1)

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

J.F. 09/03/31 (1)

7.0

MILLING CONV.

CONVENTIONAL MILLING MACHINE



Comment: CONVENTIONAL MILLING MACHINE

Drill X1 Aft cap as per Dwg D3391 .1875" dia

SP 09/04/01 (1)

8.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

SP 09/04/01 (1)

9.0

QC8

SECOND CHECK



Comment: SECOND CHECK

JL 09/04/01

10.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5- open float bag holes 0.328" and counter sink as per dwg D3391

Y
9-42

W/O:		WORK ORDER CHANGES					
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Drawing Name: FWD TUBE ASSEMBLY

Job Number: 46521

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

6-Deburr & Scribe Batch number Inside aft end.

M 9-4-2

7-Transfer drill D3391-021 with D3391-023

M 9-4-15

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

802/04/15 (X)

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

① M 9-4-16

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

8T 09-04-21

14.0

D36704200

SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

SPACER

batch:

B 4 6106

① M 9-4-21

15.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-instal spacers as per dwg D3391

A/R Magnabond 6398 batch:

exp. date:

cure time 12hrs. as per QSI015

2- grind crossbolt flush

3-back drill crossbolt if necessary

M 111299 M 9-4-21
b-31
pm 09-04-22 (X)

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

807/04/23 (X)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Job Number: 46521

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING pressure-wash 09/04/28 YL JH
Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3 M 1109139

START TIME: 9:30

OVEN TEMPERATURE: 320°

FINISH TIME: 10:00

BR 09-04-28 D.

18.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

09-04-28

(X1)

19.0

D3401041

Tow Cap Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
Tow Cap Assembly 1346029 JH

20.0

D356413

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
Wearshoe 1346183 JH

21.0

D356613

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
Gasket 1345827 JH

22.0

D36721

Phenolic Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)
Phenolic Washer B 39275 JH

23.0

AN3C4A

BOLT



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)
BOLT M 111572 JH

09-04-29 JH

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Job Number: 46521

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

AN960C10L

washer



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)
washer 1110985 *lu*

25.0

ALS41032130

Insert



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)
INSERT 11108606 * *lu*

26.0

ALS41032225

Insert



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)
INSERT 1110118 *lu*

27.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1
Identify and Stock
Location: 134660A *lu*

09-04-29 *(X)*

28.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: SKIDTUBESS RESOURCE 1
**** install D3591-1 spacer as per DSI9364 **** *lu*

09-04-28 *(X)*

29.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/05/05 *lu*
mf 09-05-04

Job Completion



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 40521
Description: Float Skidtube (412)		Part Number: D3391-1
Inspection Dwg: D3391	Rev: G	Page 1 of 1

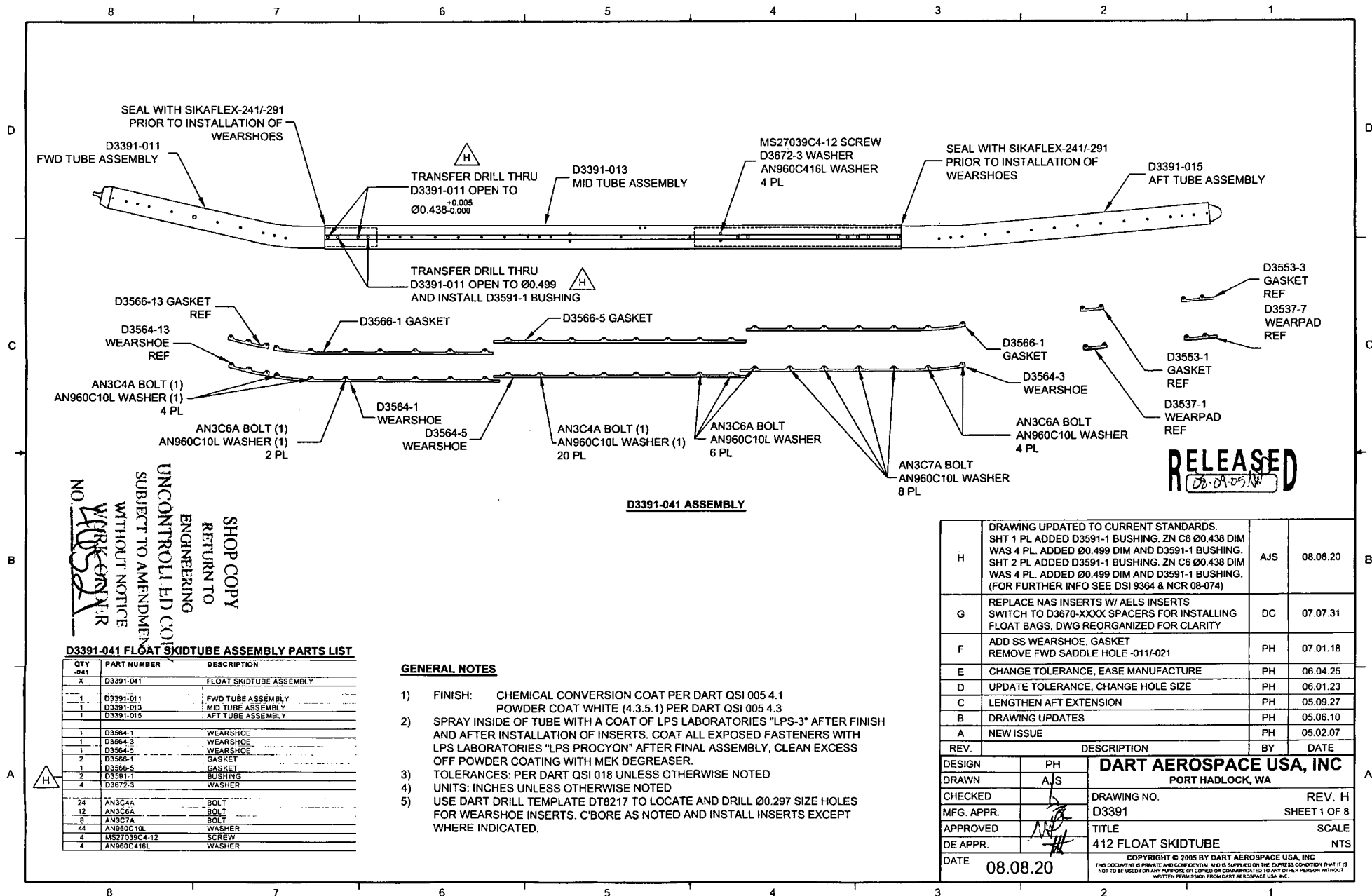
FIRST ARTICLE INSPECTION CHECKLIST

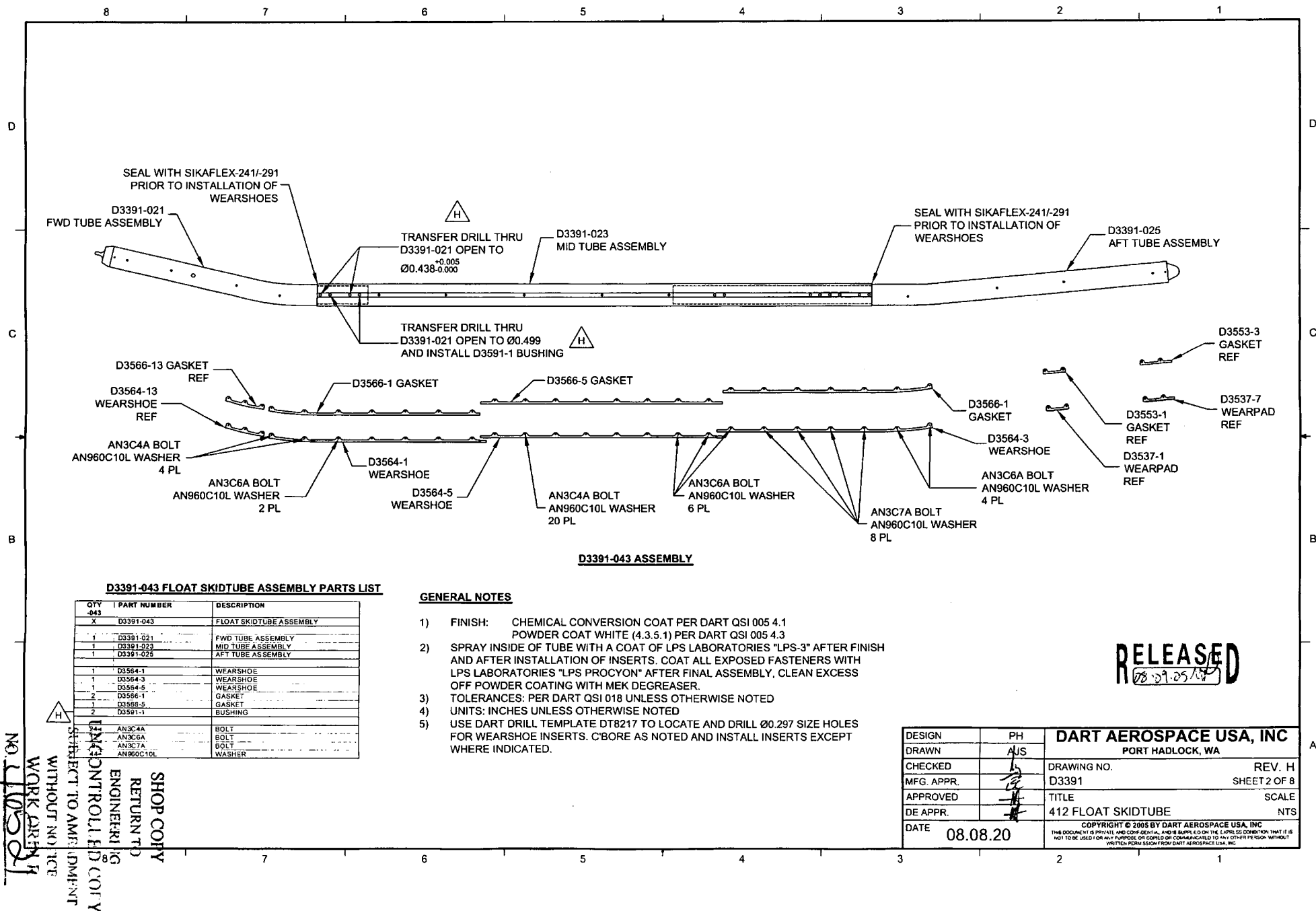
☒ First Article
 ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.687	+0.010/-0.000	0.689"	✓			
3.590	+0.025/-0.010	3.600"	✓			
3.300	+0.040/-0.000	3.320"	✓			
1.429	+0.040/-0.060	1.406"	✓			
4.250	+/-0.010	4.250"	✓			
4.250	+/-0.010	4.250"	✓			

Measured by: J.F.	Audited by: JL	Prototype Approval:	N/A
Date: 09/03/31	Date: 09/05/07	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.04.27	New Issue P/O D3391-011/-021	KJ/JLM	
B	06.06.19	Tolerances revised per D3391 Rev. E	KJ/JLM	
C	07.03.21	Dimensions removed per Dwg rev. F	KJ/JLM	
D	07.11.23	Dwg Rev. updated	KJ/EC/DD	





D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
2	AN3C4A	BOLT
2	AN3C6A	BOLT
2	AN3C7A	BOLT
2	AN960C10L	WASHER

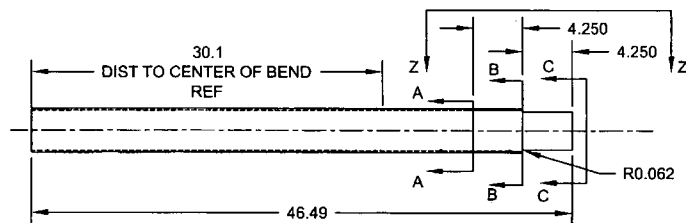
GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. CBOR AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

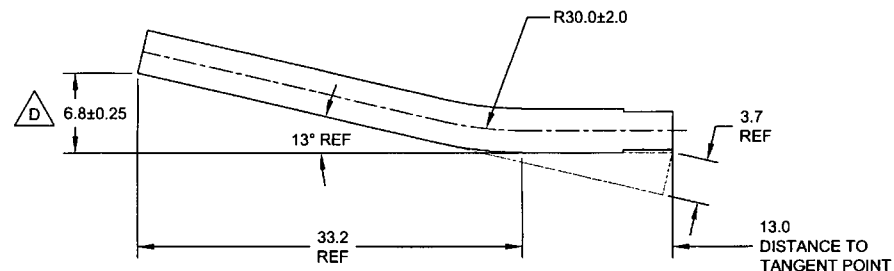
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08-09-25/14

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AUS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 2 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	

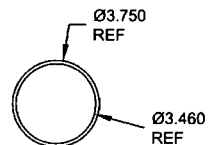
NO 410021
WORK PART 1
WITHOUT NO ICE
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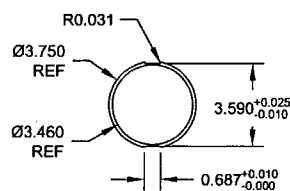
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



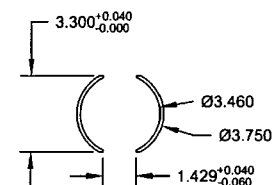
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



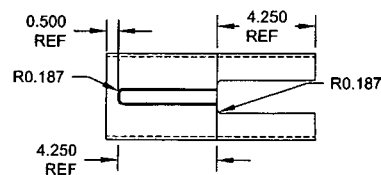
SECTION A-A
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SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X

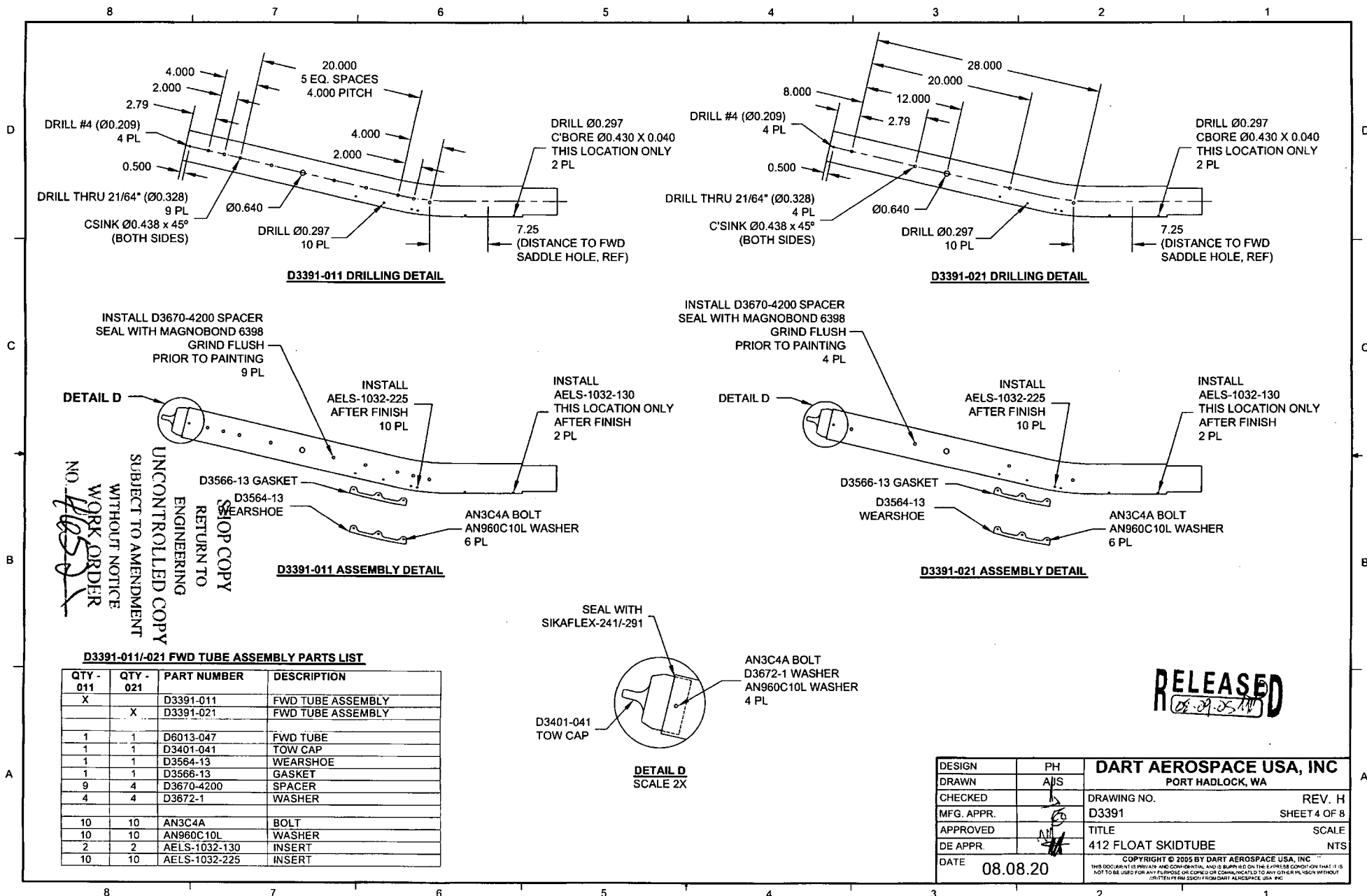


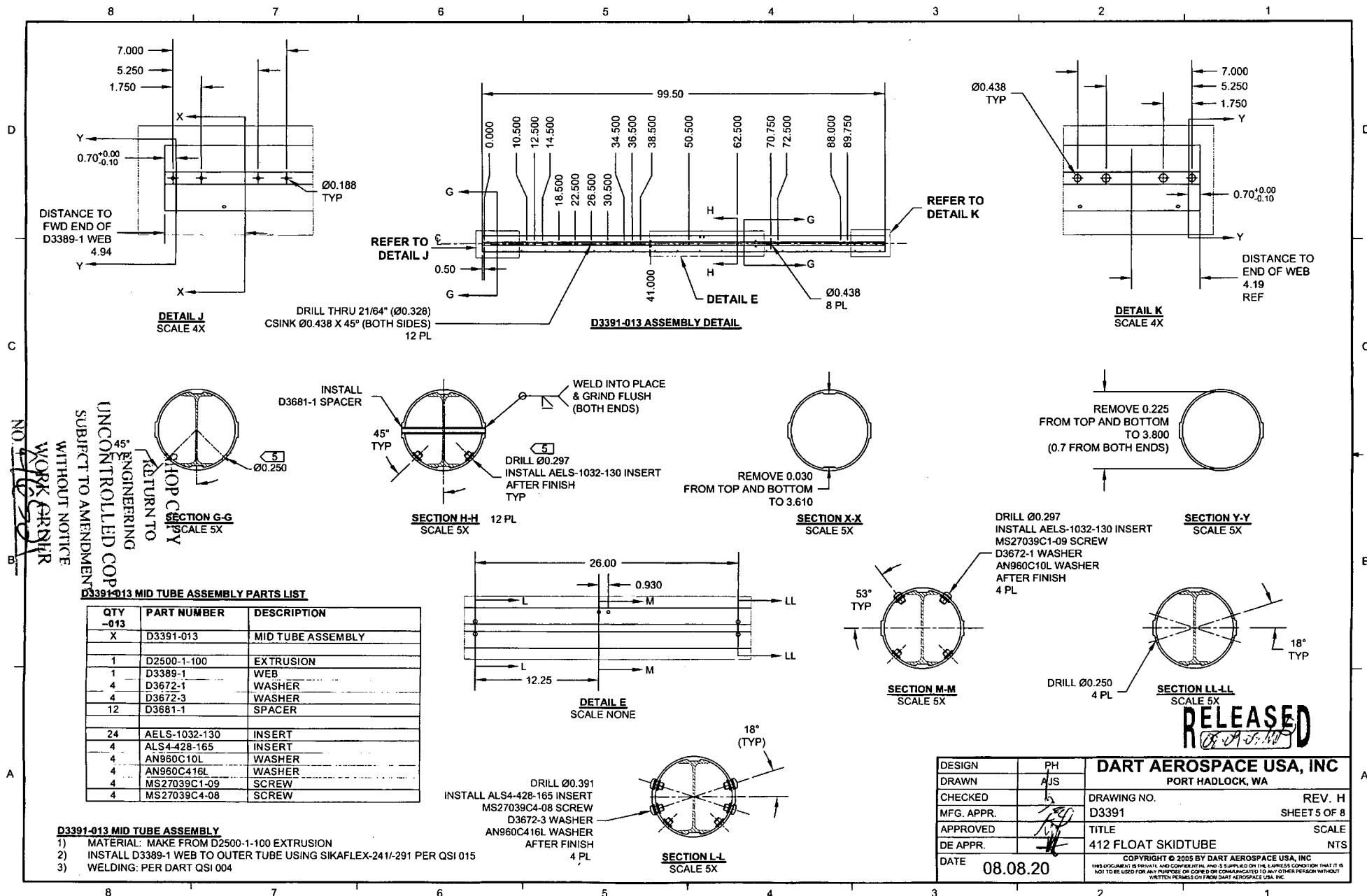
VIEW Z-Z
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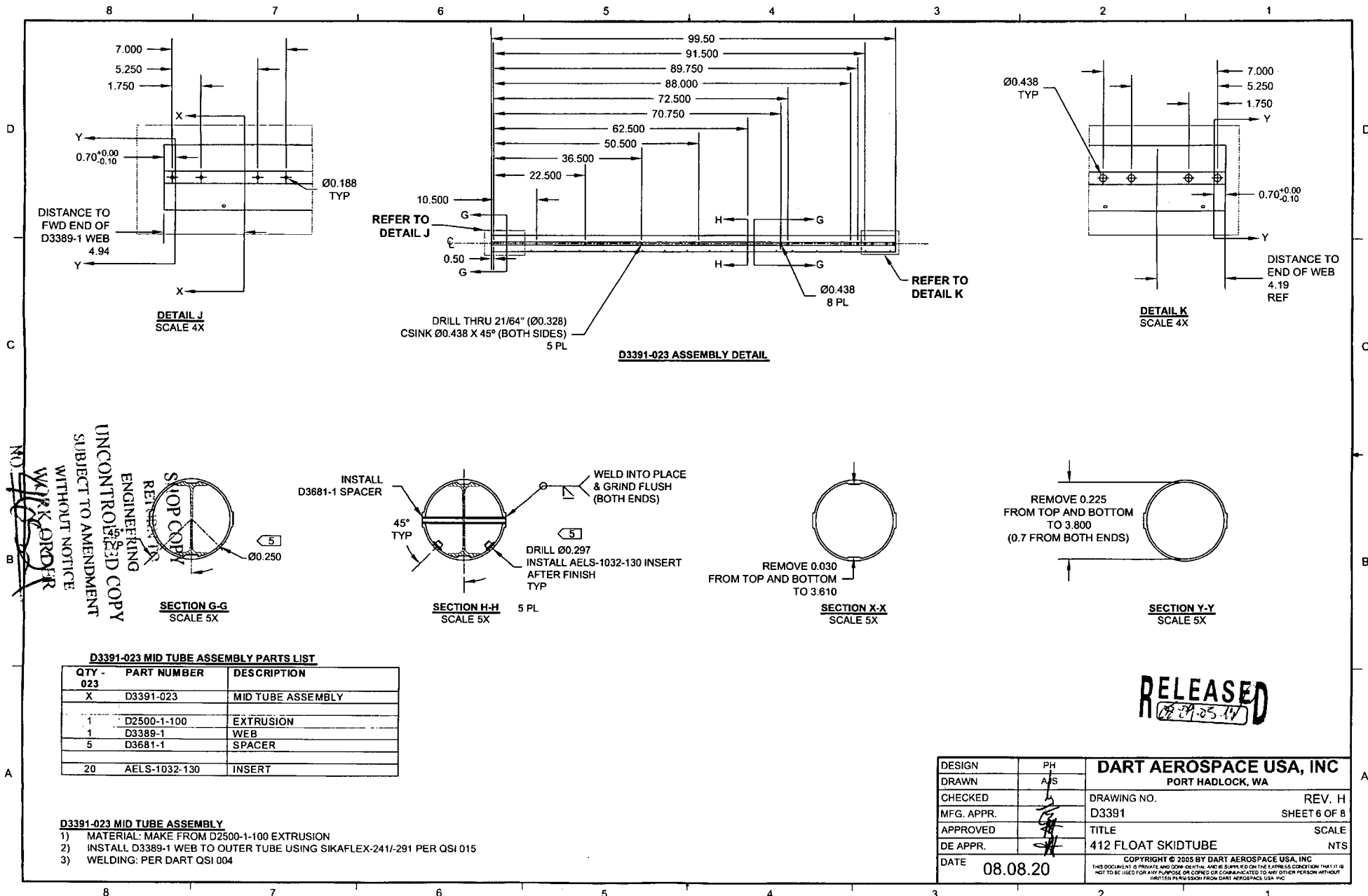
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8-9-05

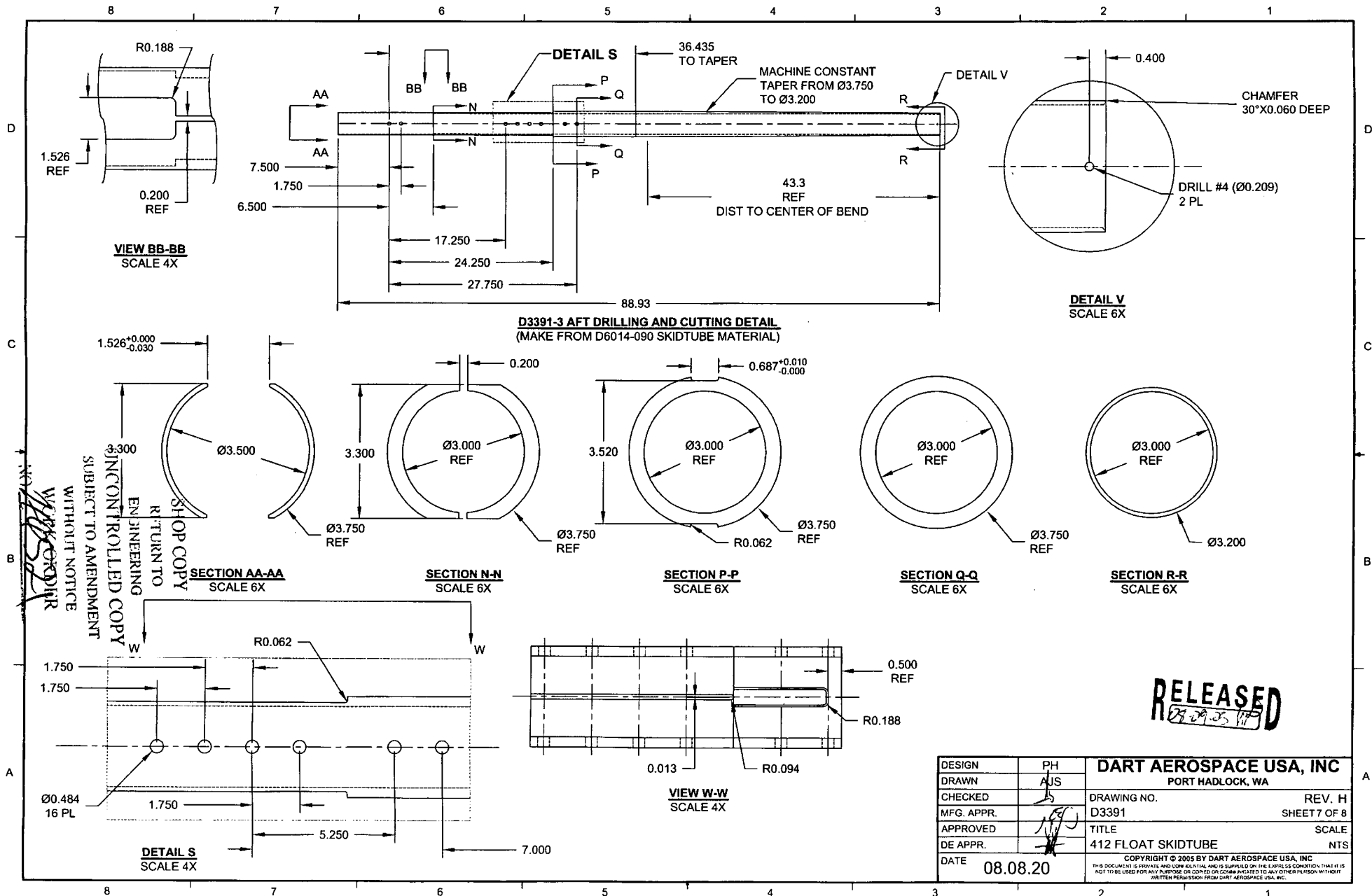
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AUS	PORT HADLOCK, WA	
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MFG. APPR.			SHEET 3 OF 8
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